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DFO Atlantic Fisheries
Research Document **96/130**

MPO Pêches de l'Atlantique
Document de recherche **96/130**

Preliminary Results of the License Stub Return System in the Newfoundland Region, 1994

by

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104-07158/

Abstract

A license stub return system was implemented in the Newfoundland and Labrador Atlantic salmon recreational fishery in 1994. Of a total of 22,596 licenses sold, overall response rate after a voluntary period and three post prompts was 55%. Response rates for residents and non-residents were similar. Catch and participation rates for anglers returning stubs voluntarily were higher than for anglers who had to be prompted. Estimates of effort expenditure from the stub return system were generally lower than reported by Department of Fisheries and Oceans (DFO) River Guardians while the reverse was true for catches of small and large salmon, in both the kept and released categories. The difference in estimates of catch between methods was greater for released fish than for kept fish. In the present analysis, extrapolation of reported catch and effort to the entire population did not include an adjustment for non-response bias and recall bias, which could be sources of substantial error. In future it is imperative that resources for a formal investigation of potential bias be incorporated into the system.

Résumé

Un système de renvoi des talons de permis de pêche récréative du saumon atlantique a été mis en oeuvre à Terre-Neuve et au Labrador en 1994. Après le délai de renvoi volontaire et l'envoi de trois lettres de rappel, 55 % des talons des 22 596 permis vendus ont été recueillis. Le taux global de réponse des résidents et des non- résidents était semblable. Les taux de capture et de participation des pêcheurs sportifs qui ont renvoyé leur talon volontairement étaient plus élevés que dans le cas des pêcheurs qui ont dû être incités à le faire. Les estimations de l'effort faites d'après les données recueillies ainsi étaient généralement plus faibles que celles signalées par les gardes-pêche du ministère des Pêches et des Océans, tandis que l'inverse s'appliquait dans le cas des prises de petits et de gros saumons, tant dans les catégories des prises retenues que des prises relâchées. La différence dans les estimations des prises d'après ces deux méthodes était plus forte dans le cas des saumons relâchés que des saumons gardés. L'extrapolation des prises signalées et de l'effort dans l'analyse suivante pour l'appliquer à la population entière ne comprend pas un ajustement pour le biais de non-réponse et le rappel, qui pourrait être une source d'erreurs importantes. Il est impératif que le système dispose à l'avenir de ressources pour mener une étude en bonne et due forme du biais potentiel.

Introduction

Historically in Newfoundland and Labrador, Atlantic salmon catch and effort data have been collected by Department of Fisheries and Oceans (DFO) Fishery Officers and River Guardians as part of their duties. Catch and effort information was based on an observed component and an estimated component (Ash and O'Connell 1987). The estimated component accounted for times when the officer was not on the river or unable to patrol a particular part of the river and was based on a knowledge of local conditions and information obtained from questioning anglers. Beginning in the late 1980s, increasing emphasis was placed on enforcement duties which detracted from time devoted to the collection of angling data. This resulted in a much greater emphasis being placed on estimates and reliability of information diminished accordingly. Also, data were never collected in a statistically designed manner. A license stub return system, which was patterned after that in use in Nova Scotia (O'Neil *et al.* 1986, 1989), was tested as an alternative means of collecting angling data in 1994. This report presents the results of this test on a river-specific basis and compares stub-return information with that collected by DFO enforcement officers.

Methods

The stub return design was the result of a joint effort by representatives of DFO, the Government of Newfoundland and Labrador, and Memorial University of Newfoundland. The Government of Newfoundland and Labrador has responsibility for the issuing and sale of licenses. In addition to the license, the package provided to vendors consisted of two portions, a vendors sales slip (in duplicate) on which to record information on anglers (name, address, telephone number, etc.) and the angler stub or log (Appendix 1). The vendor sent one copy of the sales slip to the Governmant of Newfoundland and Labrador and one to DFO. The angler stub was also in duplicate, one copy to be kept by the angler as a personal record and the other to be sent to DFO, postage paid by DFO. Instructions were provided on how to fill out the stub along with a map showing the Salmon Fishing Areas (SFAs) in the Newfoundland Region to aid in locating rivers and assigning unique river codes by DFO personnel. Anglers were asked to fill out the stubs and return them on a timely basis and to return stubs if they did not catch any fish or if they bought a license and did not fish (null effort).

The voluntary return period lasted from the close of the angling season in late August-early September until around mid-October. A list of anglers who had not voluntarily sent in stubs was generated from the vendors sales slips and the first post prompt was sent out on November 14. Post prompts 2 and 3 were sent out on February 13 and May 10. A copy of each of the post-prompt reminder cards (postage paid by DFO) is shown in Appendix 2. The third prompt included a copy of the angler's log. This addition resulted from suggestions from a number of anglers in the earlier prompts who had misplaced their original stub.

Total catch and effort were estimated by extrapolating reported catch and effort to the total angling population using a multiplying factor. The first step in arriving at this factor involved estimating the amount of null effort in the entire population (L_{nt}) using the following equation:

$$L_{nt} = L_{nr}/L_s \times L \quad (1)$$

where,

L_{nr} = number of licensees who reported they did not fish (null effort)
L_s = number of licensees who sent in stubs
L = total number of licenses sold

Next the number of licensees who fished in the total population (L_{ft}) was estimated from the equation

$$L_{ft} = L - L_{nt} \quad (2)$$

The number of licensees who reported fishing (L_{fr}) was calculated using the relationship

$$L_{fr} = L_s - L_{nr} \quad (3)$$

Estimated total catch or effort was calculated as the product of reported catch or effort and the multiplying factor (common to all rivers) derived from the following equation:

$$\text{Factor} = L_{ft}/L_{fr} = 1.94 \quad (4)$$

There was no attempt to assess non-response bias (Bijsterveld and Moore 1984; Anderson and Thompson 1991; Brown 1991) in the present exercise.

Results

LICENSE SALES, STUB RETURN RATE, AND NULL EFFORT

A total of 22,596 angling licenses was sold in Newfoundland and Labrador in 1994. Of these, 21,123 (93.5%) were resident and 1,473 (6.5%) nonresident. The total number of license stubs returned was 12,551 (55.5%). Of these 907 (7.2 % of total returns) were spoiled (Table 1 and Fig. 1). No attempt was made to reconcile spoiled responses for this exercise and they were treated the same as nonrespondents. This left a total of 11,644 (51.5%) responses (L_s in equation) that were used in the calculation of the multiplying factor. Of the used responses, the rate of return for residents was 10,872/21,123 or 51.5%; for non-residents it was very similar to residents at 772/1,473 or 52.4%. Null effort constituted 15.7% of the total used responses.

The lowest number of respondents, amount of null effort, and number of spoiled responses occurred in the voluntary group (Table 1 and Fig. 1). With respect to number of respondents, the response rates for the three post prompts were somewhat similar. The highest amount of null effort was encountered in post prompt 3. Of the three post prompts, the highest number of spoiled responses occurred in post prompt 2.

CATCH AND EFFORT DATA

By response group

The lowest reported number of small salmon kept was encountered in the voluntary response group while the highest occurred in post prompt 1 (Table 2 and Fig. 2). The number of small salmon released for the voluntary group was similar to that of post prompts 2 and 3 while post prompt 1 had the highest number. The number of large salmon kept (Labrador only) was highest in the voluntary group followed closely by post prompt 1. The lowest number of large salmon released (insular Newfoundland and Labrador combined) occurred in the voluntary group while post prompt 1 had the highest.

The pattern of effort (rod days) expenditure across response groups was very similar to that observed for numbers of small salmon kept (Table 2 and Fig. 2). Catch per unit of effort (CPUE) in terms of rod days (for kept and released small and large salmon combined) was highest in the voluntary group. The pattern for the number of anglers who actually fished in each response group was similar to that of effort expenditure (rod days) (Table 3 and Fig. 3). The number of rod days expended per angler and catch (kept and released small and large salmon combined) per angler was highest in the voluntary group and decreased overall across response groups. The percentage of anglers reporting no catch was lowest in the voluntary group and showed a progressive increase with response group.

SFA, Labrador, and insular Newfoundland totals

Catch

A comparison of estimates of catches (retained and released) of small and large salmon for each Salmon Fishing Area (SFA) and various combinations of SFAs derived from the stub with DFO estimates with are presented in Table 4. A map showing the location of each SFA is shown in Fig. 4. A ready means of comparing the two methods of estimation is to examine the Stub/DFO ratio. Estimates of catches from stub returns were higher than DFO in nearly all cases.

Labrador

For Labrador (SFAs 1,2, and 14B combined), the stub estimates of numbers of small salmon kept (3,067) and released (5,901) were 1.15 and 2.16 times higher than the DFO estimates of 2,657 and 2,735. The number of large salmon kept according to the stub (757) was 1.60 time higher than

the DFO estimate of 474; the difference in the estimate for large salmon released was much greater with a ratio of 4.37 (1,273/291). Greatest descrepancies in Labrador occurred for released large salmon in SFA 2 (ratio = 5.45) and for released small (ratio = 5.00) and large (ratio = 5.00) salmon in SFA 14B.

Insular Newfoundland

For insular Newfoundland (SFAs 3-14A combined), the stub estimate of 34,352 small salmon kept was 1.19 times higher than the 28,959 estimated by DFO; the number of small salmon released according to the stub was 18,702 which was 2.23 times higher than the DFO estimate of 8,370. The number of large salmon released (5,405) was 2.63 times higher than the DFO estimate of 2,052. Some of the largest descrepancies for insular Newfoundland occurred in SFA 13 of the Southwest subdivision where the number of small salmon released according to the stub was 5.15 times higher than estimated by DFO; for released large salmon, the stub estimate was 12.08, 27.16, and 3.31 times higher than DFO in SFA 4 (located in the Northern Peninsula East and Eastern subdivision), SFA 9 (in the South subdivision), and SFA 13 (in the Southwest subdivision), respectively.

Effort and CPUE

A comparison of estimates of effort and CPUE for each SFA and various combinations of SFAs derived from the stub with DFO estimates are shown in Table 5.

Labrador

For Labrador (SFAs 1, 2, and 14B combined), the stub estimate of effort (8,113 rod days) was lower than that of DFO (10,297), with a ratio of 0.79. Ratios > 1 were noted for SFAs 1 and 2 and a ratio of < 1 for SFA 14B. Stub estimates of CPUE were lower than those of DFO in all SFAs in Labrador.

Insular Newfoundland

Effort expenditure (90,084 rod days) for insular Newfoundland (SFAs 3-14A combined) as estimated by the stub was less than that reported by DFO (141,508), with a ratio of 0.64. The only SFAs displaying a ratio > 1 were SFA 3 (in the Northern Peninsula East and Eastern subdivision) and SFA 13 (in the Southwest subdivision). CPUE estimated from the stub was generally higher than that of DFO in insular Newfoundland.

Selected rivers by SFA

Catch

Estimated catches by the two methods are shown for individual rivers located in each SFA in Table 6. Catch information was received on a total of 223 rivers. Of these, data on 46 rivers

(marked with an asterisk in the table), for which no information was previously collected by DFO, was obtained through the stub system. Catches for these rivers in general were either zero or low. Because of the large number of rivers involved, the presentation to follow will only focus on major rivers in a given SFA or rivers with counting facilities for which annual stock assessments are carried out (O'Connell *et al.* MS1996). Data for SFA 14B will follow that of SFAs 1 and 2 in order to keep information for Labrador in the same block.

Labrador

SFA 1: The ratio for small salmon kept for Hunt River was 2.29, compared to 2.40 for released small salmon and it was 1.94 and 1.66 for large salmon kept and released.

SFA 2: Ratios for small salmon kept and released and for large salmon kept and released for Sandhill River were 1.28, 1.80, 1.74, and 8.04, respectively. For Eagle River, corresponding ratios were 1.18, 1.98, 1.65 and 5.23, respectively.

SFA 14B: In southern Labrador, ratios for small salmon kept and released and large salmon kept and released for Forteau River were 0.79, 5.28, 7.28, and a stub estimate of 4 compared 0 for DFO, respectively. Corresponding ratios for Pinware River were 1.39, 4.99, 1.12, and 5.24, respectively.

Insular Newfoundland

SFA 3: For Salmon River, stub estimates of small salmon kept and released were 5.49 and 5.76 times that reported by DFO while the ratio for large salmon released was 2.19. For Main River (Sop's Arm) however, the ratio for kept (0.93) and released (1.48) small salmon was substantially less than for Salmon River as was the ratio for released large salmon at 0.57.

SFA 4: For Exploits River, the stub estimate of small salmon kept was less than that of DFO (ratio = 0.72) while the reverse was true for small salmon released (ratio = 1.60); the ratio for large salmon released was 8.92. For Campbellton River (Indian Arm Brook) the ratio for small salmon kept was 2.03 compared to the much higher ratios for released small (63.05) and large (46.56) salmon. For Gander River, the number of small salmon kept as estimated by the stub was 1.99 times that of DFO, with ratios of 4.40 and 10.94 for small and large salmon released.

SFA 5: The stub/DFO ratio for small salmon kept for Middle Brook was 0.83 were while the ratio for those released was 1.69; the stub estimated 37 large salmon released while DFO reported 0. For Terra Nova River, the ratio for small salmon kept (0.86) was < 1 but for small salmon released (1.91) it was > 1 ; the ratio for large salmon released was 0.57. The ratio for large salmon released for Indian Bay Brook was 21.34, the highest descrepancy for the SFA.

SFAs 6, 7, and 8: Except for a few rivers, ratios for small salmon kept and released and for large salmon released were < 1.

SFA 9: The ratio for small salmon kept in Biscay River was 1.19 compared to 1.94 for those released; the stub estimated 23 large salmon released compared to 0 for DFO. The ratios for small salmon kept and released and for large salmon released for Salmonier River were 1.86, 5.35, and 13.58 (the largest descrepancy for the SFA), respectively.

SFA 10: The ratio for small salmon kept for Northeast River, Placentia was 2.04 compared to 4.66 for released fish; 6 large salmon were estimated as released by the stub compared to 0 for DFO. The highest descrepancy for the SFA was for small salmon released for Southeast River Placentia (ratio of 6.69).

SFA 11: The ratio for small salmon kept and released was 1.69 and 2.92 for Long Harbour River while that of large almon was much higher at 27.16. The ratio for small salmon kept for Grey River was 0.81 while for released small salmon it was 1.29; the stub estimated 4 large salmon released compared to 0 for DFO. Ratios for small salmon kept and released and for large salmon released in White Bear River were 2.10, 5.24, and 5.82, respectively. The ratio for small salmon released (60.92) for Grandy's River was the highest descrpeancy for the SFA.

SFA 12: Ratios for small salmon kept and released and for large salmon released in La Poile River were 1.47, 2.17, and 3.30, respectively and were 4.69, 35.89, and 209, respectively for Grandy's Brook.

SFA 13: For Flat Bay Brook, the ratio for small salmon kept was 3.36 compared to 16.49 for those released and the ratio for large salmon released was 4.06. Ratios for Humber River were 2.44, 6.37, and 4.84 for small salmon kept and released and large salmon released, respectively. The ratio for released small salmon for Southwest brook (Bottom Brook) was 65.96.

SFA 14A: Ratios for Lomond River were 1.97, 2.99, and 2.74 for small salmon kept and released and large salmon released, respectively and ratios for Torrent River in contrast were < 1 at 0.68 and 0.80 for small salmon kept and released, but > 1 for large salmon released (3.45).

Effort and CPUE

Effort and CPUE estimated by the two methods for selected rivers in each SFA of insular Newfoundland and Labrador are shown in Table 7.

Labrador

SFA 1: The estimate of effort expenditure for Hunt (2.91) and Big (1.90) rivers by the stub method was higher than that of DFO. Except for Adalatok and Hunt rivers, CPUE values estimated from the stub were higher than those reported by DFO.

SFA 2: Ratios for effort expenditure for Sandhill and Eagle rivers were 1.51 and 1.46; the greatest descrepancy in effort occurred for Alexis River (41.39). CPUE values estimated from the

stub were higher than those reported by DFO for all rivers.

SFA 14B: Ratios for effort were < 1 for Forteau (0.31) and Pinware (0.64) rivers. CPUE values estimated from the stub were higher than those reported by DFO for all rivers.

Insular Newfoundland

SFA 3: The ratio for effort for Main River (Sop's Arm) was 0.93; the greatest difference (7.37) occurred for West Arm Brook. For most rivers, CPUE values reported by DFO were higher than those estimated by the stub.

SFA 4: Ratios for effort of 0.39, 1.29, and 0.97 were recorded for Exploits, Campbellton, and Gander rivers, respectively. CPUE values derived from the stub were higher than those reported by DFO for nearly all rivers.

SFA 5: Effort ratios for Midlle Brook (0.56) and Terra Nova River (0.44) were < 1 and CPUE values derived from the stub were higher than those reported by DFO for nearly all rivers.

SFAs 6, 7, and 8: With the exception of Shoal Harbour River and Renews River, effort ratios for rivers in these SFAs were < 1. CPUE values derived from the stub were generally higher than those reported by DFO.

SFA 9: Effort ratios were < 1 and CPUE values estimated using the stub were higher than those of DFO for all rivers.

SFA 10: With the exception of Northeast River, Placentia and Black River, effort ratios were < 1 and CPUE values derived from the stub were higher than those of DFO for just over half the number of rivers in the SFA.

SFA 11: The ratio for effort for Grey River was 0.73, compared to 1.13 and 0.92 for Long Harbour River and White Bear River. The only other river with a ratio > 1 was Dolland Brook. CPUE values estimated from the stub were higher than those reported by DFO in most cases.

SFA 12: Effort ratios for Lapoile River, Grandy's Brook, and Isle Aux Morts River were 0.62, 1.23, and 0.55, respectively; ratios for the remaining rivers were < 1. CPUE values from the stub were higher than those of DFO for all rivers.

SFA 13: Effort ratios for Robinsons River, Flat Bay Brook, Southwest Brook (Bottom Brook), Harry's River, and Humber River were > 1 while the remaining rivers had ratios < 1. CPUE values determined from the stub were higher than those of DFO for all rivers in the SFA.

SFA 14A: Effort ratios were < 1 and CPUE values derived from the stub were higher than values provided by DFO for all rivers in the SFA.

Discussion

There was an overall tendency for estimates of effort expenditure by the stub method to be lower than reported by DFO, while the reverse was true for catches of small and large salmon, in both the kept and released categories. Ratios (Stub/DFO) for small salmon released were generally higher than for small salmon kept. This also applied to large salmon in Labrador.

Fraidenburg and Bargmann (1982), Small and Downham (1985), O'Neil and Harvie (1993), and Pollock *et al.* (1994) reported that anglers voluntarily participating in surveys were generally more successful than those submitting returns after being prompted. O'Neil and Harvie (1993) found that CPUE also declined with successive prompts. In the present study, there is evidence that voluntary participants were more successful than prompted participants for catch rates expressed both in terms of rod days and number of fish per angler; for the latter, there was a progressive decline across the voluntary, post prompt 1, and post prompt 2 groups (prompts 2 and 3 were the same). Null effort and the percentage of anglers reporting no catch was lowest in the voluntary group and increased progressively across prompts, while angler participation, expressed as rod days per angler, showed the converse.

Several studies have shown that angler effort expenditure and participation (Bijsterveld 1983; Bijsterveld and Moore 1984; Harris and Bergersen 1985; Brown 1991; Weithman 1991; Tarrant *et al.* 1993) and catches (Cane 1980; Bijsterveld 1983; Bijsterveld and Moore 1984; O'Neill and Harvie 1993) were higher for respondents than for nonrespondents. In the present analysis, there was no information available on non-response bias. If the trends reported in the literature apply to the present study, then it is possible that both catch and effort are overestimated. In order to calculate effort attributable to nonrespondents for Nova Scotia, O'Neil *et al.* (1986, 1989) estimated total effort using a regression of cumulative effort per response category on cumulative number of returns per response category and solving for the total number of licenses sold. Effort attributable to nonrespondents was the difference between total effort and observed effort. Total catch was calculated from a regression of catch on effort and solving for estimated total effort. Overall response rate for the Nova Scotia system was 93-95% (O'Neil and Harvie MS 1993). There was a progressive decline in effort across response categories (voluntary and three post prompts) for Nova Scotia and the difference between total returns and total licenses sold was small (O'Neil, unpublished data), which should have lessened uncertainty associated with solving the equation with a value outside the observed bounds of the regression. In the present case however, overall response rate was much lower and the difference between total returns and total licenses sold was much wider than for Nova Scotia; also, there was no progressive decline in effort across response groups, hence the technique of O'Neil *et al.* (1986, 1989) was not used. All the studies cited above stress the importance of resolving the issue of non-response bias and the means of accompolishing this is usually through specifically designed telephone surveys.

In a study of angling participation, Tarrant *et al.* (1993) found a significant first order interaction between non-response bias and recall bias, indicating the two are not independent factors. Surveys have shown that reliability of information decreases with length of recall period (Harris and

Bergersen 1985; Anderson and Thompson 1991; Fisher *et al.* 1991; Tarrant *et al.* 1993). In the present study, the amount of time after the close of the angling season (late August-early September) when voluntary responses ceased was approximately 5 weeks. Resource constraints precluded sending out the first post prompt until November 14. Similar delays occurred in sending out reminders after post prompts 1 and 2. The angling stub was structured for the recording of daily information and to be filled in on the day of fishing activity. However, many anglers had misplaced or discarded their stubs, as indicated by the number of responses written on regular stationery and requests to include a log on the prompt reminder card. Recall may not have affected the accuracy of recording of the number of small and large (Labrador only) salmon kept to a large extent, since season catch was limited by a bag limit (O'Connell *et al.* MS 1995). Recalling the dates of kept catch however might have been problematic. In light of findings reported in the literature, accuracy of recall of effort expenditure, numbers of small and large salmon released, and associated dates of fishing activity, is certainly open to question in the present case. The situation is probably worse for nonrespondents. Recall bias is also a factor to be dealt with when reconciling spoiled responses, which should be attended to immediately at the end of the voluntary and each post prompt period.

It should be pointed out that neither the stub estimates nor DFO estimates have been assessed against an independent methodology such as creel survey techniques (Fraidenburg and Bargmann 1982; Essig and Holliday 1991). One thing is clear however and that is with the multiplying factor used above, there are wide differences in estimates between the two methods. Some of the uncertainty surrounding the stub method would be alleviated by a formal examination of non-response bias and recall bias; it is imperative that this be built into the system in future.

Acknowledgements

We thank Mr. Gary Somerton for computerizing the data from vendor's slips and for assistance with computer programming and output and MS. Geraldine Carter for entering the stub data.

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Table 1. Number of respondents, null effort, and spoiled responses by response group.

Response group	Respondents		Null effort		Spoiled responses	
	Number	% of total	Number	% of total	Number	% of total
Voluntary	1136	9.8	60	3.3	11	1.2
Post Prompt 1	3995	34.3	510	28.0	282	31.1
Post Prompt 2	2965	25.5	530	29.1	472	52.0
Post Prompt 3	3548	30.5	723	39.7	142	15.7
Total	11644	100	1823	100	907	100

Table 2. Reported effort, catch, and catch per unit of effort (CPUE) by response group.

Response group	Effort (Rod days)	Small (No.)		Large (No.)		CPUE*
		Kept	Released	Kept	Released	
Voluntary	7691	2437	2865	126	556	0.78
Post prompt 1	19130	6898	4184	112	1236	0.65
Post prompt 2	11024	4604	2606	67	703	0.72
Post prompt 3	12772	5349	3027	85	947	0.74
Total	50617	19288	12682	390	3442	0.71

*CPUE is for total catch (kept and released catch of small and large salmon combined)

Table 3. Number of anglers who fished, rod days per angler, catch per angler, and the percentage of anglers reporting no catch, by response group.

Response group	No. of anglers who fished	Rod days per angler	Catch* per angler	% of anglers with no catch
Voluntary	1076	7.1	5.6	0.19
Post prompt 1	3485	5.5	3.6	0.28
Post prompt 2	2435	4.5	3.3	0.29
Post prompt 3	2825	4.5	3.3	0.32
Total	9821	5.2	3.6	0.29

*Catch per angler is for total catch (kept and released catch of small and large salmon combined).

Table 4 Comparison of catch information estimated from the stub with that provided by DFO for each SFA, Labrador (SFAs 1, 2, and 14B), Northern Peninsula East and Eastern (SFAs 3-8), South (SFAs 9-11), Southwest (SFAs 12-13), Northern Peninsula West (SFA 14A), and insular Newfoundland (SFAs 3-14A)

	Small kept			Small released			Small total			Large kept			Large released			Large total			Total kept			Total released			Total		
SFA	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
Labrador (1, 2 & 14B)	3067	2657	1.15	5901	2735	2.16	8969	5392	1.66	757	474	1.60	1273	291	4.37	2029	765	2.65	3824	3131	1.22	7174	3026	2.37	10998	6157	1.79
1	413	293	1.41	1577	864	1.83	1990	1157	1.72	132	86	1.53	208	95	2.19	340	181	1.88	545	379	1.44	1785	959	1.86	2330	1338	1.74
2	1870	1671	1.12	3880	1785	2.17	5750	3456	1.66	487	287	1.70	1009	185	5.45	1496	472	3.17	2357	1958	1.20	4889	1970	2.48	7246	3928	1.84
14B	784	693	1.13	444	86	5.17	1228	779	1.58	158	101	1.56	56	11	5.11	194	112	1.73	922	794	1.16	501	97	5.16	1422	891	1.60
Northern Peninsula East & Eastern (3 - 8)	17446	16250	1.07	9153	5283	1.73	26599	21533	1.24	1364	539	2.53	1364	539	2.53	17446	16250	1.07	10517	5822	1.81	27963	22072	1.27			
3	4309	3314	1.30	2396	1844	1.30	6705	5158	1.30	235	404	0.58	235	404	0.58	4309	3314	1.30	2631	2248	1.17	6939	5562	1.25			
4	9700	9351	1.04	5300	2728	1.94	15000	12079	1.24	954	79	12.08	954	79	12.08	9700	9351	1.04	6255	2807	2.23	15955	12158	1.31			
5	3209	3216	1.00	1395	689	2.02	4604	3905	1.18	155	52	2.98	155	52	2.98	3209	3216	1.00	1550	741	2.09	4759	3957	1.20			
6	173	241	0.72	54	21	2.59	227	262	0.87	17	4	4.37	17	4	4.37	173	241	0.72	72	25	2.87	244	266	0.92			
7	19	71	0.27	6	0		25	71	0.36	0	0		0	0		19	71	0.27	6	0		25	71	0.36			
8	37	57	0.65	2	1	1.94	39	58	0.67	2	0		2	0		37	57	0.65	4	1	3.88	41	58	0.70			
South (9 - 11)	4348	4055	1.07	2549	917	2.78	6897	4972	1.39	340	61	5.57	340	61	5.57	4348	4055	1.07	2889	978	2.95	7236	5033	1.44			
9	1013	829	1.22	479	93	5.15	1492	922	1.62	54	2	27.16	54	2	27.16	1013	829	1.22	534	95	5.62	1546	924	1.67			
10	826	946	0.87	237	150	1.58	1063	1096	0.97	64	21	3.05	64	21	3.05	826	946	0.87	301	171	1.76	1127	1117	1.01			
11	2508	2280	1.10	1833	674	2.72	4342	2954	1.47	221	38	5.82	221	38	5.82	2508	2280	1.10	2054	712	2.89	4563	2992	1.53			
Southwest (12 - 13)	8136	4225	1.93	5166	1073	4.81	13303	5298	2.51	3178	977	3.25	3178	977	3.25	8136	4225	1.93	8344	2050	4.07	16480	6275	2.63			
12	918	593	1.55	345	137	2.52	1263	730	1.73	103	48	2.14	103	48	2.14	918	593	1.55	448	185	2.42	1366	778	1.76			
13	7219	3632	1.99	4821	936	5.15	12040	4568	2.64	3075	929	3.31	3075	929	3.31	7219	3632	1.99	7896	1865	4.23	15115	5497	2.75			
Northern Peninsula West (14A)	4421	4429	1.00	1833	1097	1.67	6255	5526	1.13	524	475	1.10	524	475	1.10	4421	4429	1.00	2357	1572	1.50	6778	6001	1.13			
Insular Newfoundland (3 -14A)	34352	28959	1.19	18702	8370	2.23	53053	37329	1.42	5405	2052	2.63	5405	2052	2.63	34352	28959	1.19	24106	10422	2.31	58458	39381	1.48			

Table 5. Comparison of effort, total catch, and CPUE estimated from the stub with that provided by DFO for each SFA, Labrador (SFAs 1, 2, and 14B), Northern Peninsula East and Eastern (SFAs 3-8), South (SFAs 9-11), Southwest (SFAs 12-13), Northern Peninsula West (SFA 14A), and insular Newfoundland (SFAs 3-14A).

	Effort (rod days)			Total catch*			CPUE	
SFA	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
Labrador (1, 2 & 14B)	8113	10297	0.79	10998	6157	1.79	1.36	0.60
1	1166	848	1.37	2330	1338	1.74	2.00	1.58
2	4152	3540	1.17	7246	3928	1.84	1.75	1.11
14B	2796	5909	0.47	1422	891	1.60	0.51	0.15
Northern Peninsula East & Eastern (3 - 8)	46560	72813	0.64	27963	22072	1.27	0.60	0.30
3	8024	7715	1.04	6939	5562	1.25	0.86	0.72
4	26995	43242	0.62	15955	12158	1.31	0.59	0.28
5	9968	18000	0.55	4759	3957	1.20	0.48	0.22
6	1183	2429	0.49	244	266	0.92	0.21	0.11
7	192	1162	0.17	25	71	0.36	0.13	0.06
8	198	265	0.75	41	58	0.70	0.21	0.22
South (9 - 11)	12641	25073	0.50	7236	5033	1.44	0.57	0.20
9	3934	7154	0.55	1546	924	1.67	0.39	0.13
10	3271	7028	0.47	1127	1117	1.01	0.34	0.16
11	5436	10891	0.50	4563	2992	1.53	0.84	0.27
Southwest (12 - 13)	21740	22576	0.96	16480	6275	2.63	0.76	0.28
12	1806	2853	0.63	1366	778	1.76	0.76	0.27
13	19934	19723	1.01	15115	5497	2.75	0.76	0.28
Northern Peninsula West (14A)	9143	21046	0.43	6778	6001	1.13	0.74	0.29
Insular Newfoundland (3 -14A)	90084	141508	0.64	58458	39381	1.48	0.65	0.28

*Small plus large, retained plus released.

Table 6 Comparison of catch information estimated from the stub with that provided by DFO for each river

Labrador

River No.	River Name	Small Kept			Small Released			Small Total			Large Kept			Large Released			Large Total			Total Kept			Total Released			Total		
		Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
SFA 1																												
5714280	St. Michael's River	41	62	0.66	17	22	0.79	58	84	0.69	6	10	0.58	6	1	5.82	12	11	1.06	47	72	0.65	23	23	1.01	70	95	0.74
5715040	Big River	157	71	2.21	1401	701	2.00	1558	772	2.02	76	36	2.10	178	81	2.20	254	117	2.17	233	107	2.18	1579	782	2.02	1812	889	2.04
5717600	Little Bay River*	4			0			4	0		0			0			0	0		4	0		0	0		4	0	
5717900	Adlatok River	14	38	0.36	19	29	0.67	33	67	0.49	2	4	0.49	0	4		2	8	0.24	16	42	0.37	19	33	0.59	35	75	0.47
5819220	Hunt River	188	82	2.29	91	38	2.40	279	120	2.33	43	22	1.94	12	7	1.66	54	29	1.87	231	104	2.22	103	45	2.28	334	149	2.24
5819480	Flowers River	10	40	0.24	49	74	0.66	58	114	0.51	6	14	0.42	12	2	5.82	17	16	1.09	16	54	0.29	60	76	0.79	76	130	0.58
Total		413	293	1.41	1577	864	1.83	1990	1157	1.72	132	86	1.53	208	95	2.19	340	181	1.88	545	379	1.44	1785	959	1.86	2330	1338	1.74
SFA 2																												
5201420	St. Charles River	39	55	0.71	41	0		80	55	1.45	0	0		0	0		0	0		39	55	0.71	41	0		80	55	1.45
5201520	St. Mary's River (Trout River)	140	130	1.07	60	9	6.68	200	139	1.44	14	4	3.40	0	0		14	4	3.40	153	134	1.14	60	9	6.68	213	143	1.49
5201720	St. Lewis River	120	144	0.84	78	59	1.32	198	203	0.97	14	5	2.72	2	0		16	5	3.10	134	149	0.90	80	59	1.35	213	208	1.03
5201900	Port Manham Brook	12	42	0.28	4	0		16	42	0.37	0	0		0	0		0	0		12	42	0.28	4	0		16	42	0.37
5202500	Alexis River	78	1	77.60	171	0		248	1	248.32	17	2	8.73	2	0		19	2	9.70	95	3	31.69	173	0		268	3	89.24
5202680	Sinnerys River	116	76	1.53	54	15	3.62	171	91	1.88	4	0		2	0		6	0		120	76	1.58	56	15	3.75	177	91	1.94
5202820	Gilbert River	6	3	1.94	4	2	1.94	10	5	1.94	2	0		2	0		4	0		8	3	2.59	6	2	2.91	14	5	2.72
5303460	St. Michaels River		35			0		0	35			0			0		0	0		0	35		0	0		0	35	
5306500	Hawke River	14	37	0.37	14	2	6.79	27	39	0.70	0	15		0	0		0	15		14	52	0.26	14	2	6.79	27	54	0.50
5405240	Black Bear River*	0			0			0			0			0			0	0		0								
5405420	Sandhill River	357	279	1.28	586	326	1.80	943	605	1.56	50	29	1.74	56	7	8.04	107	36	2.96	487	308	1.32	642	333	1.93	1050	641	1.64
5506440	Dykes Brook*	0			0			0			0			0			0	0		0								
5506600	Paradise River*	0			0			0			0			0			0	0		0								
5506820	Eagle River	834	709	1.18	2582	1303	1.98	3416	2012	1.70	336	204	1.65	925	177	5.23	1261	381	3.31	1170	913	1.28	3508	1480	2.37	4677	2393	1.95
5506880	White Bear River*	4			4			8			2			0			2	0		6								
5507320	North River*	8			124			132			2			10			12	0		10								
5609000	English River*	4			4			8			2			0			2	0		6								
5610100	Kenamu River*	0			0			0			2			0			2	0		2								
5611040	Northwest River*	4			10			14			0			0			0	0		4								
5611620	Mulligan River*	0			0			0			0			0			0	0		0								
5612880	Double Mer River	0	2		0	0		0	2		0	0		0	0		0	0		0	2		0	0		0	2	
5613520	Tom Luscombe Brook	124	158	0.79	146	69	2.11	270	227	1.19	43	28	1.52	10	1	9.70	52	29	1.81	167	186	0.90	155	70	2.22	322	256	1.26
5613620	West Brook*	12			0			12	0		0			0			0	0		12	0		0	0		12	0	
Total		1870	1671	1.12	3880	1785	2.17	5750	3456	1.66	487	287	1.70	1009	185	5.45	1496	472	3.17	2357	1958	1.20	4889	1970	2.48	7246	3928	1.84
SFA 14B																												
5000120	Forteau River	244	309	0.79	95	18	5.28	340	327	1.04	29	4	7.28	4	0		33	4	8.25	274	313	0.87	99	18	5.50	372	331	1.13
5000220	Lance Au Loup River	16	11	1.41	10	0		25	11	2.29	0	0		0	1		0	1		16	11	1.41	10	1	9.70	25	12	2.10
5000360	Pinware River	518	373	1.39	340	68	4.99	857	441	1.94	109	97	1.12	52	10	5.24	161	107	1.50	627	470	1.33	392	78	5.02	1019	548	1.86
5100660	Barge Bay Brook	6			0			6	0		0			0			0	0		6								
Total		784	693	1.13	444	86	5.17	1228	779	1.58	138	101	1.36	56	11	5.11	194	112	1.73	922	794	1.16	501	97	5.16	1422	891	1.60

Table 6 Cont'd

Insular Newfoundland

SFA 3		Small Kept			Small Released			Small Total			Large Total (Released)			Total Released			Total		
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
0300590	Ireland's Brook*	14			21			35			0			21			35		
0300800	West Brook	182	155	1.18	244	184	1.33	427	339	1.26	27	34	0.80	272	218	1.25	454	373	1.22
0300850	Salmon River (Anegg Bay)	1632	297	5.49	374	65	5.76	2006	362	5.54	68	31	2.19	442	96	4.61	2074	393	5.28
0301230	Freshwater Creek*	0			0			0			0			0			0		
0401640	East River (Easter Brook)	43	31	1.38	0	31		43	62	0.69	0	24		0	55		43	86	0.50
0401670	Northeast Bk. (Chimney Bay)	332	79	4.20	113	46	2.45	444	125	3.55	12	34	0.34	124	80	1.55	456	159	2.87
0401690	Beaver Brook (Western Hk)	338	76	4.44	126	43	2.93	464	119	3.90	14	35	0.39	140	78	1.79	477	154	3.10
0401790	Northwest Bk (Canada Bay)	29	30	0.97	2	35	0.06	31	65	0.48	0	22		2	57	0.03	31	87	0.36
0401850	Cloud River	60	40	1.50	78	38	2.04	138	78	1.77	2	32	0.06	80	70	1.14	140	110	1.27
0402160	Williamsport River*	2			6			8			0			6			8		
0402340	Soufflets River*	16			2			17			0			2			17		
0402500	Little Hr. Deep River	23			2			25			0			2			25		
0402600	Cat Arm River*	6			0			6			0			0			6		
0402880	Coney Arm River	54	575	0.09	14	292	0.05	68	867	0.08	4	0		17	292	0.06	72	867	0.08
0402990	Jacksons Arm River*	2			0			2			0			0			2		
0403110	Main River (Sops Arm)	1509	1622	0.93	1403	945	1.48	2912	2567	1.13	109	192	0.57	1511	1137	1.33	3021	2759	1.09
0403360	Hampden River	0	231		0	151		0	382		0	0		0	151		0	382	
0403580	Wild Cove Bk. (White Bay)	0	2		0	0		0	2		0	0		0	0		0	2	
0403620	Western Arm Brook	14	0		2	0		16	0		0	0		2	0		16	0	
0403670	Middle Arm Brook	21	124	0.17	10	14	0.69	31	138	0.22	0	0		10	14	0.69	31	138	0.22
0403700	Southern Arm Brook	4	0		0	0		4	0		0	0		0	0		4	0	
0504040	Southwest Bk. (Baie Verte)	29	33	0.88	0	0		29	33		0	0		0	0		29	33	0.88
0504280	Pequet Bk. (Woodstock Bk.)	0	19		0	0		0	19		0	0		0	0		0	19	
Total		4309	3314	1.30	2596	1844	1.30	6705	5158	1.30	235	404	0.58	2831	2248	1.17	6939	5562	1.25

SFA 4																			
0604820	East Bk. (Burlington River)	41	165	0.25	27	0		68	165	0.41	8	0		35	0		76	165	0.46
0605570	Indian Bk. (Indian River)	537	426	1.26	200	168	1.19	737	594	1.24	25	3	8.41	225	171	1.32	762	597	1.28
0605640	Riverhead Bk. (West Bk.)	293	719	0.41	167	174	0.96	460	893	0.51	17	0		184	174	1.06	477	893	0.53
0605680	South Brook	260	407	0.64	111	187	0.59	371	594	0.62	35	0		146	187	0.78	405	594	0.68
0605940	Tommy's Arm River	140	219	0.64	89	57	1.57	229	276	0.83	14	6	2.26	103	63	1.63	243	282	0.86
0605990	Sops Arm Brook*	2			0			2			0			0			2		
0606050	Shoal Arm Brook*	4			4			8			0			4			8		
0606570	Northwest Arm River	2	38	0.05	0	12		2	50	0.04	0	0		0	12		2	50	0.04
0606720	West Arm Bk. (Western Arm)	132	309	0.43	37	111	0.33	169	420	0.40	2	0		39	111	0.35	171	420	0.41
0606820	Newbay River (Pt. Leamington)	155	295	0.53	188	97	1.90	340	392	0.87	50	0		235	97	2.42	390	392	0.99
0707660	Charles Brook	17	63	0.28	0	15		17	78	0.22	0	0		0	15		17	78	0.22
0707760	Northern Arm Brook	58	220	0.26	27	55	0.49	85	275	0.31	0	0		27	55	0.49	85	275	0.31
0707780	Peters River	31	16	1.94	16	8	1.94	47	24	1.94	0	0		16	8	1.94	47	24	1.94
0707790	Exploits River	2208	3072	0.72	1837	1145	1.60	4045	4217	0.96	268	30	8.92	2105	1175	1.79	4313	4247	1.02
0707810	Rattling Brook	16	137	0.11	31	42	0.74	47	179	0.26	0	0		31	42	0.74	47	179	0.26
0708190	Michaels Hr River*	4			0			4			0			0	0		4		
0708210	Indian Arm Brook (Campbellton)	691	340	2.03	252	4	63.05	943	344	2.74	47	1	46.56	299	5	59.75	989	345	2.87
0708250	Loon Bay River*	0			0			0			0			0	0		0		
0708480	Dog Bay River (Horwood)	136	232	0.59	35	74	0.47	171	306	0.56	4	0		39	74	0.52	175	306	0.57
0908610	Gander River	4214	2122	1.99	1969	448	4.40	6183	2570	2.41	427	39	10.94	2396	487	4.92	6610	2609	2.53
0908820	Ragged Hr. River	413	306	1.35	175	79	2.21	588	385	1.53	43	0		217	79	2.75	630	385	1.64
0908940	Anchor Brook	99	101	0.98	56	19	2.96	155	120	1.29	6	0		62	19	3.27	161	120	1.34
0908950	Deadmans Brook	72	61	1.18	47	12	3.88	118	73	1.62	4	0		50	12	4.20	122	73	1.67
0909030	Windmill Brook	177	103	1.71	37	21	1.76	213	124	1.72	6	0		43	21	2.03	219	124	1.77
Total		9700	9351	1.04	5300	2728	1.94	15000	12079	1.24	954	79	12.08	6255	2807	2.23	15955	12158	1.31

Table 6 Cont'd.

SFA 5		Small Kept			Small Released			Small Total			Large Released			Total Released			Total		
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
1109480	Northwest Bk. (Indian Bk.)	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
1109490	Indian Bay Brook	737	589	1.25	299	171	1.75	1036	760	1.36	21	1	21.34	320	172	1.86	1057	761	1.39
1109560	Northwest River (Trinity)	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
1109750	Traverse Brook	351	154	2.28	211	36	5.87	563	190	2.96	37	0	.	248	36	6.90	599	190	3.16
1109760	Middle Brook (Gambo)	340	409	0.83	206	122	1.69	545	531	1.03	37	0	.	243	122	1.99	582	531	1.10
1109780	Gambo Brook	918	941	0.98	301	179	1.68	1218	1120	1.09	25	4	6.31	326	183	1.78	1244	1124	1.11
1110130	Northwest Bk. (Alexander Bay)	4	45	0.09	2	0	.	6	45	0.13	2	0	.	4	0	.	8	45	0.17
1110220	Terra Nova River	708	822	0.86	340	178	1.91	1048	1000	1.05	25	44	0.57	365	222	1.64	1073	1044	1.03
1210880	Northwest Bk. (Port Blandford)	41	164	0.25	12	1	11.64	52	165	0.32	0	3	.	12	4	2.91	52	168	0.31
1210890	Salmon Brook (Port B)	10	25	0.39	2	0	.	12	25	0.47	2	0	.	4	0	.	14	25	0.54
1210930	Southwest Bk. (Port B)	91	67	1.36	21	2	10.67	113	69	1.63	6	0	.	27	2	13.58	118	69	1.72
1211070	Northwest Brook. (Lethbridge)*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
1211080	Southwest Book (Bloomfield)*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
1211580	Charleston Brook*	8	.	.	2	.	.	10	.	.	0	.	.	2	.	.	10	.	.
Total		3209	3216	1.00	1395	689	2.02	4604	3905	1.18	155	52	2.98	1550	741	2.09	4759	3957	1.20
SFA 6																			
1512520	Salmon Cove River (T.B.)	76	89	0.85	17	17	1.03	93	106	0.88	6	4	1.46	23	21	1.11	99	110	0.90
1512530	Port Rexton River*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
1512620	Trouty River	0	50	.	12	3	3.88	12	53	0.22	0	0	.	12	3	3.88	12	53	0.22
1612750	Popes Hr. River	39	15	2.59	14	0	.	52	15	3.49	6	0	.	19	0	.	58	15	3.88
1612780	Hickmans Harbour River*	25	.	.	0	.	.	25	.	.	0	0	.	0	.	.	25	.	.
1612990	Georges Brook*	8	.	.	0	.	.	8	.	.	0	.	.	0	.	.	8	.	.
1613060	Shoal Hr. River	16	37	0.42	6	0	.	21	37	0.58	6	0	.	12	0	.	27	37	0.73
1613100	Deep Bight Brook*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
1714680	Bellevue Bk. (Trout Bk.)	10	34	0.29	6	0	.	16	34	0.46	0	0	.	6	0	.	16	34	0.46
1714870	Spread Eagle Peak	0	16	.	0	1	.	0	17	.	0	0	.	0	1	.	0	17	.
Total		173	241	0.72	54	21	2.59	227	262	0.87	17	4	4.37	72	25	2.87	244	266	0.92
SFA 7																			
2115720	Salmon Cove River	8	13	0.60	0	0	.	8	13	0.60	0	0	.	0	0	.	8	13	0.60
2215970	North River (C.B.)	10	44	0.22	2	0	.	12	44	0.26	0	0	.	2	0	.	12	44	0.26
2215990	South River (C.B.)	2	14	0.14	4	0	.	6	14	0.42	0	0	.	4	0	.	6	14	0.42
2216220	North Arm River (Holyrood)	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
Total		19	71	0.27	6	0	.	25	71	0.36	0	0	.	6	0	.	25	71	0.36
SFA 8																			
2416730	North Pond Brook*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
2517350	Cape Broyle River	0	6	.	0	0	.	0	6	.	0	0	.	0	0	.	0	6	.
2617560	Fermeuse River*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
2617640	Renews River	33	51	0.65	2	1	1.94	35	52	0.67	2	0	.	4	1	3.88	37	52	0.71
Total		37	57	0.65	2	1	1.94	39	58	0.67	2	0	.	4	1	3.88	41	58	0.70

Table 6. Cont'd.

SFA 9		Small Kept			Small Released			Small Total			Large Released			Total Released			Total		
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
2700230	Biscay Bay River	254	214	1.19	83	43	1.94	338	257	1.31	23	0	.	107	43	2.48	361	257	1.40
2700380	N.W. Bk. Trepassey	182	181	1.01	147	19	7.76	330	200	1.65	6	0	.	153	19	8.07	336	200	1.68
2800860	Peters River (SMB)	2	2	0.97	6	0	.	8	2	3.88	0	0	.	6	0	.	8	2	3.88
2801690	Salmonier River (SMB)	353	190	1.86	155	29	5.35	508	219	2.32	14	1	13.58	169	30	5.63	522	220	2.37
2802060	North Hr. River (SMB)	43	12	3.56	31	0	.	74	12	6.14	2	0	.	33	0	.	76	12	6.31
2802170	Little Salmonier River	80	36	2.21	21	2	10.67	101	38	2.65	4	1	3.88	25	3	8.41	105	39	2.69
2802210	Big Barachois River	17	23	0.76	2	0	.	19	23	0.84	0	0	.	2	0	.	19	23	0.84
2802240	Little Barachois River*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
2802380	Branch River	81	171	0.48	33	0	.	114	171	0.67	6	0	.	39	0	.	120	171	0.70
Total		1013	829	1.22	479	93	5.15	1492	922	1.62	54	2	27.16	534	95	5.62	1546	924	1.67
SFA 10																			
2902820	Gt. Barasway Bk. (Plac.)	4	0	.	10	0	.	14	0	.	0	0	.	10	0	.	14	0	.
2902980	Southeast River (Plac.)	64	40	1.60	14	2	6.79	78	42	1.85	14	0	.	27	2	13.58	91	42	2.17
2903070	Northeast River (Plac.)	80	39	2.04	23	5	4.66	103	44	2.34	6	0	.	29	5	5.82	109	44	2.47
3003740	Come-By-Chance River	4	14	0.28	2	2	0.97	6	16	0.36	0	0	.	2	2	0.97	6	16	0.36
3003880	North Hr. River	56	92	0.61	17	16	1.09	74	108	0.68	8	0	.	25	16	1.58	81	108	0.75
3003890	Watsons Brook	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
3004090	Black River	52	27	1.94	16	7	2.22	68	34	2.00	2	4	0.49	17	11	1.59	70	38	1.84
3004160	Pipers Hole River	83	116	0.72	29	32	0.91	113	148	0.76	10	6	1.62	39	38	1.02	122	154	0.79
3105210	Black River*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
3105410	Petite Forte River*	6	.	.	0	.	.	6	.	.	0	.	.	0	.	.	6	.	.
3105470	Nonseuch Brook	2	4	0.49	0	0	.	2	4	0.49	0	0	.	0	0	.	2	4	0.49
3105560	Cape Roger River	175	183	0.95	66	39	1.69	241	222	1.08	12	3	3.88	78	42	1.85	252	225	1.12
3105760	Bay De L'eau River	200	286	0.70	43	39	1.09	243	325	0.75	10	8	1.21	52	47	1.11	252	333	0.76
3105920	Rushoon River*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
3105990	Northeast Branch (Red Hr.)	0	4	.	0	0	.	0	4	.	0	0	.	0	0	.	0	4	.
3106000	Red Hr. River (NW Branch)	2	4	0.49	0	0	.	2	4	0.49	0	0	.	0	0	.	2	4	0.49
3206370	Northwest Brook	0	2	.	0	0	.	0	2	.	0	0	.	0	0	.	0	2	.
3206410	Tides Brook	6	9	0.65	2	0	.	8	9	0.86	2	0	.	4	0	.	10	9	1.08
3206950	Big Salmonier River	0	34	.	0	5	.	0	39	.	0	0	.	0	5	.	0	39	.
3207150	Lt. St. Lawrence River	2	0	.	0	0	.	2	0	.	0	0	.	0	0	.	2	0	.
3207280	Lawn River	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
3207520	Taylor Bay Brook	16	9	1.72	6	1	5.82	21	10	2.13	0	0	.	6	1	5.82	21	10	2.13
3207570	Salmonier River (Lamaline)	70	83	0.84	10	2	4.85	80	85	0.94	2	0	.	12	2	5.82	81	85	0.96
3207670	Piercey's Brook	2	0	.	0	0	.	2	0	.	0	0	.	0	0	.	2	0	.
Total		826	946	0.87	237	150	1.58	1063	1096	0.97	64	21	3.05	301	171	1.76	1127	1117	1.01

Table 6. Cont'd.

SFA 11		Small Kept			Small Released			Small Total			Large Released			Total Released			Total		
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
3308040	Grand Bank Brook	29	25	1.16	4	1	3.88	33	26	1.27	10	0	.	14	1	13.58	43	26	1.64
3308440	Garnish River	297	550	0.54	244	141	1.73	541	691	0.78	27	2	13.58	272	143	1.90	568	693	0.82
3308540	Devils Brook	16	89	0.17	2	2	0.97	17	91	0.19	0	0	.	2	2	0.97	17	91	0.19
3409780	Long Hr. River	477	283	1.69	722	247	2.92	1199	530	2.26	27	1	27.16	749	248	3.02	1226	531	2.31
3410270	Rencontre Brook*	31	.	.	8	.	.	39	.	.	0	.	.	8	.	.	39	.	.
3410790	Bay Du Nord River	80	113	0.70	99	45	2.20	178	158	1.13	14	13	1.04	113	58	1.94	192	171	1.12
3410830	Northwest Brook*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
3410920	Salmon River*	10	.	.	12	.	.	21	.	.	0	.	.	12	.	.	21	.	.
3410940	Simmons Brook	17	52	0.34	6	19	0.31	23	71	0.33	2	0	.	8	19	0.41	25	71	0.36
3411000	Southwest Brook	4	40	0.10	0	4	.	4	44	0.09	0	0	.	0	4	.	4	44	0.09
3511530	Old Bay Brook	12	19	0.61	2	1	1.94	14	20	0.68	2	0	.	4	1	3.88	16	20	0.78
3511560	Taylors Bay Brook	49	14	3.46	8	0	.	56	14	4.02	23	0	.	31	0	.	80	14	5.68
3511580	Black Tom Brook*	2	.	.	2	.	.	4	.	.	0	.	.	2	.	.	4	.	.
3613410	Southeast Brook	25	24	1.05	0	0	.	25	24	1.05	0	0	.	0	0	.	25	24	1.05
3613490	Northwest Brook (Tail Race)	41	68	0.60	4	6	0.65	45	74	0.60	2	8	0.24	6	14	0.42	47	82	0.57
3614020	Long Reach Brook	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
3614070	Salmon River (Bay D'Est)	12	0	.	37	0	.	49	0	.	4	0	.	41	0	.	52	0	.
3614260	D'Espoir Brook	8	36	0.22	0	2	.	8	38	0.20	4	0	.	4	2	1.94	12	38	0.31
3614760	Allan's Cove Brook	14	0	.	0	0	.	14	0	.	0	0	.	0	0	.	14	0	.
3614850	Bottom Brook	17	35	0.50	0	0	.	17	35	0.50	0	0	.	0	0	.	17	35	0.50
3615270	Dollard Brook	56	31	1.81	29	0	.	85	31	2.75	2	0	.	31	0	.	87	31	2.82
3716620	Grey River	182	224	0.81	233	180	1.29	415	404	1.03	4	0	.	237	180	1.31	419	404	1.04
3717440	White Bear River	431	205	2.10	105	20	5.24	535	225	2.38	23	4	5.82	128	24	5.34	559	229	2.44
3717720	Bay Du Loup River	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
3717770	Kings Hr. River	8	13	0.60	0	0	.	8	13	0.60	0	0	.	0	0	.	8	13	0.60
3817890	Grandy's River	662	426	1.55	305	5	60.92	966	431	2.24	76	10	7.57	380	15	25.35	1042	441	2.36
3818190	Connoire Brook	16	33	0.47	14	1	13.58	29	34	0.86	2	0	.	16	1	15.52	31	34	0.91
3818340	Couteau Brook*	14	.	.	0	.	.	14	.	.	0	.	.	0	.	.	14	.	.
Total		2508	2280	1.10	1833	674	2.72	4342	2954	1.47	221	38	5.82	2054	712	2.89	4563	2992	1.53
SFA 12																			
3818800	La Poile River	312	213	1.47	221	102	2.17	534	315	1.69	33	10	3.30	254	112	2.27	566	325	1.74
3818880	Barasway Brook*	4	.	.	0	.	.	4	.	.	0	.	.	0	.	.	4	.	.
3819030	Farmers Arm Brook	41	27	1.51	0	0	.	41	27	1.51	0	0	.	0	0	.	41	27	1.51
3819100	Garia River	87	92	0.95	8	1	7.76	95	93	1.02	8	9	0.86	16	10	1.55	103	102	1.01
3819120	Northwest Brook (Garia Bay)	8	8	0.97	0	0	.	8	8	0.97	0	0	.	0	0	.	8	8	0.97
3919590	Grandy's Brook (Burnt Is. River)	248	53	4.69	72	2	35.89	320	55	5.82	27	13	2.09	99	15	6.60	347	68	5.11
3919820	Isle Aux Morts River	159	124	1.28	33	30	1.10	192	154	1.25	33	2	16.49	66	32	2.06	225	156	1.44
3920100	Grand Bay Brook	58	76	0.77	12	2	5.82	70	78	0.90	2	14	0.14	14	16	0.85	72	92	0.78
Total		918	593	1.55	345	137	2.52	1263	730	1.73	103	48	2.14	448	185	2.42	1366	778	1.76

Table 6. Cont'd.

SFA 13	Small Kept			Small Released			Small Total			Large Released			Total Released			Total		
River No. River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO
4000010 Red Rocks Brook*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
4000020 Bear Cove Brook	4	41	0.09	0	1	.	4	42	0.09	2	6	0.32	2	7	0.28	6	48	0.12
4000140 Little Codroy River	37	85	0.43	8	10	0.78	45	95	0.47	8	52	0.15	16	62	0.25	52	147	0.36
4000330 Grand Codroy River	729	514	1.42	287	118	2.43	1017	632	1.61	617	320	1.93	904	438	2.06	1633	952	1.72
4000860 Crabbes Brook	237	174	1.36	241	37	6.50	477	211	2.26	297	45	6.60	537	82	6.55	774	256	3.02
4000900 Barachois Brook	194	154	1.26	95	25	3.80	289	179	1.61	97	14	6.93	192	39	4.92	386	193	2.00
4000920 Robinsons River	363	160	2.27	248	88	2.82	611	248	2.46	239	38	6.28	487	126	3.86	850	286	2.97
4000960 Fishels Brook	147	216	0.68	78	58	1.34	225	274	0.82	66	47	1.40	144	105	1.37	291	321	0.91
4101080 Flat Bay Brook	431	128	3.36	132	8	16.49	563	136	4.14	130	32	4.06	262	40	6.55	693	168	4.12
4101110 Little Barachois Brook	80	110	0.72	21	1	21.34	101	111	0.91	35	10	3.49	56	11	5.11	136	121	1.12
4101150 Southwest & Bottom Brook	514	113	4.55	462	7	65.96	976	120	8.13	398	33	12.05	859	40	21.49	1374	153	8.98
4101200 Harry's River	349	153	2.28	196	84	2.33	545	237	2.30	177	50	3.53	372	134	2.78	722	287	2.51
4301920 Fox Island River	151	55	2.75	33	10	3.30	184	65	2.84	103	8	12.85	136	18	7.54	287	73	3.93
4402090 Serpentine River	155	116	1.34	72	20	3.59	227	136	1.67	91	93	0.98	163	113	1.44	318	229	1.39
4402430 Humber River	3777	1548	2.44	2949	463	6.37	6726	2011	3.34	803	166	4.84	3752	629	5.96	7529	2177	3.46
4402570 Whites Brook*	2	.	.	0	.	.	2	.	.	0	.	.	0	.	.	2	.	.
4402740 Goose Arm Brook	47	65	0.72	0	6	.	47	71	0.66	14	15	0.91	14	21	0.65	60	86	0.70
Total	7219	3632	1.99	4821	936	5.15	12040	4568	2.64	3075	729	3.31	7896	1865	4.23	15115	5497	2.75

SFA 14A																		
4503520 Trout River	52	28	1.87	2	1	1.94	54	29	1.87	6	0	.	8	1	7.76	60	29	2.07
4503740 Middle Brook*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
4503920 Lomond River	640	325	1.97	347	116	2.99	987	441	2.24	159	58	2.74	506	174	2.91	1147	499	2.30
4504040 Deer Arm Brook	177	13	13.58	126	2	63.05	303	15	20.18	10	0	.	136	2	67.90	312	15	20.82
4504120 Bakers Brook*	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.
4504150 Little Brook*	2	.	.	0	.	.	2	.	.	4	.	.	4	.	.	6	.	.
4604220 Western Brook	2	0	.	0	0	.	2	0	.	0	0	.	0	0	.	2	0	.
4604560 Parsons Pond River	54	66	0.82	0	19	.	54	85	0.64	8	9	0.86	8	28	0.29	62	94	0.66
4604620 Portland Creek	520	722	0.72	343	426	0.81	863	1148	0.75	122	292	0.42	466	718	0.65	986	1440	0.68
4704740 River of Ponds	823	1140	0.72	233	92	2.53	1055	1232	0.86	58	10	5.82	291	102	2.85	1114	1242	0.90
4704750 Little Brook Ponds	23	158	0.15	12	2	5.82	35	160	0.22	0	0	.	12	2	5.82	35	160	0.22
4704800 Torrent River	155	227	0.68	66	82	0.80	221	309	0.72	31	9	3.45	97	91	1.07	252	318	0.79
4704840 East River	146	377	0.39	41	18	2.26	186	395	0.47	37	34	1.08	78	52	1.49	223	429	0.52
4805030 Castors River	631	364	1.73	204	88	2.31	834	452	1.85	66	12	5.50	270	100	2.70	900	464	1.94
4905170 St. Genevieve River	949	823	1.15	376	235	1.60	1325	1058	1.25	10	47	0.21	386	282	1.37	1335	1105	1.21
4905200 East River	29	20	1.46	4	2	1.94	33	22	1.50	0	1	.	4	3	1.29	33	23	1.43
4905370 Green Island Brook*	23	.	.	0	.	.	23	.	.	0	.	.	0	.	.	23	.	.
4905390 Eddies Cove Brook*	25	.	.	0	.	.	25	.	.	0	.	.	0	.	.	25	.	.
4905460 Big Brook	113	74	1.52	43	12	3.56	155	86	1.80	8	1	7.76	50	13	3.88	163	87	1.87
4905510 Watt's Bight Brook	25	30	0.84	8	2	3.88	33	32	1.03	0	2	.	8	4	1.94	33	34	0.97
0105640 Pinecone Brook	6	2	2.91	6	0	.	12	2	5.82	2	0	.	8	0	.	14	2	6.79
0105680 Parker River (West Brook)	23	20	1.16	21	0	.	45	20	2.23	4	0	.	25	0	.	49	20	2.43
0105710 Bartlette River	4	40	0.10	2	0	.	6	40	0.15	0	0	.	2	0	.	6	40	0.15
0105720 Upper Brook	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
0105800 East Brook (Pinsent Bay)	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.	0	0	.
Total	4421	4429	1.00	1833	1097	1.67	6255	5526	1.13	524	475	1.10	2357	1572	1.50	6778	6001	1.13

Table 7. Comparison of effort, total catch, and CPUE estimated from the stub with that provided by DFO for each river.

Labrador

SFA 1	Rods			Total			CPUE	
River No. River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
5714280 St. Michael's River	99	242	0.41	70	95	0.74	0.71	0.39
5715040 Big River	369	194	1.90	1812	889	2.04	4.92	4.58
5717600 Little Bay River*	4	.	.	4	.	.	1.00	
5717900 Adlatok River	60	115	0.52	33	75	0.47	0.58	0.65
5819220 Hunt River	601	207	2.91	334	149	2.24	0.55	0.72
5819480 Flowers River	33	90	0.37	76	130	0.58	2.29	1.44
Total	1166	848	1.37	2330	1338	1.74	2.00	1.58
SFA 2								
5201420 St. Charles River	89	257	0.35	80	55	1.45	0.89	0.21
5201520 St. Mary's River (Trout River)	262	449	0.58	213	143	1.49	0.81	0.32
5201720 St. Lewis River	138	225	0.61	213	208	1.03	1.55	0.92
5201900 Port Manvham Brook	16	129	0.12	16	42	0.37	1.00	0.33
5202500 Alexis river	124	3	41.39	268	3	89.24	2.16	1.00
5202680 Shinneys River	140	112	1.25	177	91	1.94	1.26	0.81
5202820 Gilbert River	14	13	1.04	14	5	2.72	1.00	0.38
5303460 St. Michaels River (White Bear Arm)	0	55	.	0	35	.	.	0.64
5304500 Hawke River	14	65	0.21	27	54	0.50	2.00	0.83
5405240 Black Bear River*	2	.	.	0	.	.	0.00	.
5405820 Sandhill River	755	499	1.51	1050	641		1.39	1.28
5506440 Dykes Brook*	4	.	.	0	.	.	0.00	.
5506600 Paradise River*	2	.	.	0	.	.	0.00	.
5506820 Eagle River	2250	1545	1.46	4677	2393	1.95	2.08	1.55
5506880 White Bear River*	16	.	.	10	.	.	0.63	.
5507320 North River*	49	.	.	144	.	.	2.96	.
5609000 English River*	10	.	.	10	.	.	1.00	.
5610100 Kenamu River*	14	.	.	2	.	.	0.14	.
5611040 Northwest River*	21	.	.	14	.	.	0.64	.
5611620 Mulligan River*	10	.	.	0	.	.	0.00	.
5612880 Double Mer River	2	4	0.49	0	2	.	0.00	0.50
5613520 Tom Luscombe Brook	211	184	1.15	322	256	1.26	1.52	1.39
5613620 West Brook*	12	.	.	12	.	.	1.00	.
Total	4152	3540	1.17	7246	3928	1.84	1.75	1.11
SFA 14B								
5000120 Forteau River	698	2226	0.31	372	331	1.13	0.53	0.15
5000220 Lanse Au Loup River	66	508	0.13	25	12	2.10	0.38	0.02
5000360 Pinware River	2025	3175	0.64	1019	548	1.86	0.50	0.17
5100660 Barge Bay Brook	6	.	.	6	.	.	1.00	.
Total	2796	5909	0.47	1422	891	1.60	0.51	0.15

Table 7. Cont'd.

Insular Newfoundland

SFA 3		Rods			Total Catch			CPUE	
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
0300590	Ireland's Brook*	35	.	.	35	.	.	1.00	.
0300800	West Brook	318	325	0.98	454	373	1.22	1.43	1.15
0300850	Salmon River (Ariege Bay)	2660	810	3.28	2074	393	5.28	0.78	0.49
0301230	Freshwater Creek*	33	.	.	0	.	.	0.00	.
0401640	East River (Easter Brook)	87	95	0.92	43	86	0.50	0.49	0.91
0401670	Northeast Bk. (Chimney Bay)	619	181	3.42	456	159	2.87	0.74	0.88
0401690	Beaver Brook (Western Bk)	590	174	3.39	477	154	3.10	0.81	0.89
0401790	Northwest Bk (Canada Bay)	50	77	0.66	31	87	0.36	0.62	1.13
0401850	Cloud River	103	124	0.83	140	110	1.27	1.36	0.89
0402160	Williamsport River*	4	.	.	8	.	.	2.00	.
0402340	Soufflets River*	54	.	.	17	.	.	0.32	.
0402500	Little Hr. Deep River	21	.	.	25	.	.	1.18	.
0402600	Cat Arm River*	4	.	.	6	.	.	1.50	.
0402880	Conry Arm River	128	1355	0.09	72	867	0.08	0.56	0.64
0402990	Jacksons Arm River*	10	.	.	2	.	.	0.20	.
0403110	Main River (Sops Arm)	3085	3329	0.93	3021	2759	1.09	0.98	0.83
0403360	Hampden River	6	625	0.01	0	382	.	0.00	0.61
0403580	Wild Cove Bk. (White Bay)	6	7	0.83	0	2	.	0.00	0.29
0403620	Western Arm Brook	37	5	7.37	16	0	.	0.42	.
0403670	Middle Arm Brook	66	282	0.23	31	138	0.22	0.47	0.49
0403700	Southern Arm Brook	6	0	.	4	0	.	0.67	.
0504040	Southwest Bk. (Baie Verte)	72	225	0.32	29	33	0.88	0.41	0.15
0504280	Paquet Bk. (Woodstock Bk.)	31	101	0.31	0	19	.	0.00	0.19
Total		8024	7715	1.04	6939	5562	1.25	0.86	0.72

SFA 4									
0604820	East Bk. (Burlington River)	128	302	0.42	76	165	0.46	0.59	0.55
0605570	Indian Bk. (Indian River)	1585	2086	0.76	762	597	1.28	0.48	0.29
0605640	Riverhead Bk. (West Bk.)	770	1861	0.41	477	893	0.53	0.62	0.48
0605680	South Brook	613	1288	0.48	405	594	0.68	0.66	0.46
0605940	Tommy's Arm River	442	1053	0.42	243	282	0.86	0.55	0.27
0605990	Sops Arm Brook*	8	.	.	2	.	.	0.25	.
0606050	Shoal Arm Brook*	6	.	.	8	.	.	1.33	.
0606570	Northwest Arm River	6	194	0.03	2	50	0.04	0.33	0.26
0606720	West Arm Bk. (Western Arm)	392	1065	0.37	171	420	0.41	0.44	0.39
0606820	Newbay River (Pt. Leamington)	497	1079	0.46	390	392	0.99	0.79	0.36
0707660	Charlm Brook	25	232	0.11	17	78	0.22	0.69	0.34
0707760	Northern Arm Brook	111	833	0.13	85	275	0.31	0.77	0.33
0707780	Peters River	101	123	0.82	47	24	1.94	0.46	0.20
0707790	Exploits River	6289	16330	0.39	4313	4247	1.02	0.69	0.26
0707810	Rattling Brook (upstream to power house)	62	512	0.12	47	179	0.26	0.75	0.35
0708190	Michaels Hr River*	4	.	.	4	.	.	1.00	.
0708210	Indian Arm Brook (Campbellton)	1907	1484	1.29	989	345	2.87	0.52	0.23
0708250	Loon Bay River*	6	.	.	0	.	.	0.00	.
0708480	Dog Bay River (Horwood)	693	939	0.74	175	306	0.57	0.25	0.33
0908610	Gander River	10980	11287	0.97	6610	2609	2.53	0.60	0.23
0908820	Ragged Hr. River	1399	1135	1.23	630	385	1.64	0.45	0.34
0908940	Anchor Brook	252	513	0.49	161	120	1.34	0.64	0.23
0908950	Deadmans Brook	161	395	0.41	122	73	1.67	0.76	0.18
0909030	Windmill Brook	559	531	1.05	219	124	1.77	0.39	0.23
Total		26995	43242	0.62	15955	12158	1.31	0.59	0.28

Table 7. Cont'd.

SFA 5		Rods			Total			CPUE	
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
1109480	Northwest Bk. (Indian Bk.)	8	48	0.16	0	0	.	0.00	0.00
1109490	Indian Bay Brook	1917	2080	0.92	1057	761	1.39	0.55	0.37
1109560	Northwest River (Trinity)	12	0	.	0	0	.	0.00	.
1109750	Traverse Brook	782	1160	0.67	599	190	3.16	0.77	0.16
1109760	Middle Brook (Gambo)	1152	2049	0.56	582	531	1.10	0.51	0.26
1109780	Gambo Brook	2778	3579	0.78	1244	1124	1.11	0.45	0.31
1110130	Northwest Bk. (Alexander Bay)	41	895	0.05	8	45	0.17	0.19	0.05
1110220	Terra Nova River	2547	5853	0.44	1073	1044	1.03	0.42	0.18
1210880	Northwest Bk. (Port Blandford)	283	1658	0.17	52	168	0.31	0.18	0.10
1210890	Salmon Brook (Port B)	49	261	0.19	14	25	0.54	0.28	0.10
1210930	Southwest Bk. (Port B)	367	417	0.88	118	69	1.72	0.32	0.17
1211070	Northwest Brook. (Lethbridge)*	2	.	.	0	.	.	0.00	.
1211080	Southwest Book (Bloomfield)*	21	.	.	2	.	.	0.09	.
1211580	Charleston Brook*	10	.	.	10	.	.	1.00	.
Total		9968	18000	0.55	4759	3957	1.20	0.48	0.22
SFA 6									
1512520	Salmon Cove River (T.B.)	448	846	0.53	99	110	0.90	0.22	0.13
1512530	Port Rexton River*	2	.	.	0	.	.	0.00	.
1512620	Trouty River	85	420	0.20	12	53	0.22	0.14	0.13
1612750	Popes Hr. River	272	478	0.57	58	15	3.88	0.21	0.03
1612780	Hickmans Harbour River*	25	.	.	25	.	.	1.00	.
1612990	Georges Brook*	12	.	.	8	.	.	0.67	.
1613060	Shoal Hr. River	254	195	1.30	27	37	0.73	0.11	0.19
1613100	Deep Bight Brook*	2	.	.	0	.	.	0.00	.
1714680	Bellevue Bk. (Trout Bk.)	83	300	0.28	16	34	0.46	0.19	0.11
1714870	Spread Eagle Peak	0	190	.	0	17	.	.	0.09
Total		1183	2429	0.49	244	266	0.92	0.21	0.11
SFA 7									
2115720	Salmon Cove River	50	308	0.16	8	13	0.60	0.15	0.04
2215970	North River (C.B.)	78	459	0.17	12	44	0.26	0.15	0.10
2215990	South River (C.B.)	62	307	0.20	6	14	0.42	0.09	0.05
2216220	North Arm River (Holyrood)	2	88	0.02	0	0	.	0.00	0.00
Total		192	1162	0.17	25	71	0.36	0.13	0.06
SFA 8									
2416730	North Pond Brook*	2	.	.	2	.	.	1.00	.
2517350	Cape Broyle River	0	71	.	0	6	.	.	0.08
2617560	Fermeuse River*	2	.	.	2	.	.	1.00	.
2617640	Renews River	194	194	1.00	37	52	0.71	0.19	0.27
Total		198	265	0.75	41	58	0.70	0.21	0.22

Table 7. Cont'd.

SFA 9		Rods			Total			CPUE	
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
2700230	Biscay Bay River	654	1406	0.46	361	257	1.40	0.55	0.18
2700380	N.W. Bk. Trepassey	475	798	0.60	336	200	1.68	0.71	0.25
2800860	Peters River (SMB)	10	129	0.08	8	2	3.88	0.80	0.02
2801690	Salmonier River (SMB)	2120	3243	0.65	522	220	2.37	0.25	0.07
2802060	North Hr. River (SMB)	235	309	0.76	76	12	6.31	0.32	0.04
2802170	Little Salmonier River	142	190	0.75	105	39	2.69	0.74	0.21
2802210	Big Barachois River	85	212	0.40	19	23	0.84	0.23	0.11
2802240	Little Barachois River*	6	.	.	0	.	.	0.00	.
2802380	Branch River	208	867	0.24	120	171	0.70	0.58	0.20
Total		3934	7154	0.55	1546	924	1.67	0.39	0.13

SFA 10									
2902820	Ot. Barasway Bk. (Plac.)	27	96	0.28	14	0	.	0.50	0.00
2902980	Southeast River (Plac.)	452	730	0.62	91	42	2.17	0.20	0.06
2903070	Northeast River (Plac.)	407	313	1.30	109	44	2.47	0.27	0.14
3003740	Come-By-Chance River	64	116	0.55	6	16	0.36	0.09	0.14
3003880	North Hr. River	177	302	0.58	81	108	0.75	0.46	0.36
3003890	Watsons Brook	0	22	.	0	0	.	.	0.00
3004090	Black River	155	138	1.12	70	38	1.84	0.45	0.28
3004160	Pipers Hole River	351	632	0.56	122	154	0.79	0.35	0.24
3105210	Black River*	4	.	.	2	.	.	0.50	.
3105410	Petite Forte River*	8	.	.	6	.	.	0.75	.
3105470	Nonsuch Brook	6	70	0.08	2	4	0.49	0.33	0.06
3105560	Cape Roger River	543	1259	0.43	252	225	1.12	0.46	0.18
3105760	Bay De L'eau River	580	1278	0.45	252	333	0.76	0.43	0.26
3105920	Rushoon River*	4	.	.	2	.	.	0.50	.
3105990	Northeast Branch (Red Hr.)	2	21	0.09	0	4	.	0.00	0.19
3106000	Red Hr. River (NW Branch)	37	42	0.88	2	4	0.49	0.05	0.10
3206370	Northwest Brook	4	117	0.03	0	2	.	0.00	0.02
3206410	Tides Brook	74	435	0.17	10	9	1.08	0.13	0.02
3206950	Big Salmonier River	16	274	0.06	0	39	.	0.00	0.14
3207150	Lt. St. Lawrence River	2	53	0.04	2	0	.	1.00	0.00
3207280	Lawn River	0	52	.	0	0	.	.	0.00
3207520	Taylor Bay Brook	132	162	0.81	21	10	2.13	0.16	0.06
3207570	Salmonier River (Lamaline)	221	778	0.28	81	85	0.96	0.37	0.11
3207670	Piercey's Brook	6	138	0.04	2	0	.	0.33	0.00
Total		3271	7028	0.47	1127	1117	1.01	0.34	0.16

Table 7. Cont'd.

SFA 11		Rods			Total			CPUE	
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
3308040	Grand Bank Brook	107	370	0.29	43	26	1.64	0.40	0.07
3308440	Garnish River	729	2592	0.28	568	693	0.82	0.78	0.27
3308540	Devils Brook	25	820	0.03	17	91	0.19	0.69	0.11
3409780	Long Hr. River	726	641	1.13	1226	531	2.31	1.69	0.83
3410270	Rencontre Brook*	52	.	.	39	.	.	0.74	.
3410790	Bay Du Nord River	345	525	0.66	192	171	1.12	0.56	0.33
3410830	Northwest Brook*	2	.	.	2	.	.	1.00	.
3410920	Salmon River*	17	.	.	21	.	.	1.22	.
3410940	Simmons Brook	122	226	0.54	25	71	0.36	0.21	0.31
3411000	Southwest Brook	21	192	0.11	4	44	0.09	0.18	0.23
3511530	Old Bay Brook	62	162	0.38	16	20	0.78	0.25	0.12
3511560	Taylors Bay Brook	109	123	0.88	80	14	5.68	0.73	0.11
3511580	Black Tom Brook*	4	.	.	4	.	.	1.00	.
3613410	Southeast Brook	157	272	0.58	25	24	1.05	0.16	0.09
3613490	Northwest Brook (Tail Race)	66	984	0.07	47	82	0.57	0.71	0.08
3614020	Long Reach Brook	12	245	0.05	0	0	.	0.00	0.00
3614070	Salmon River (Bay D'Est)	21	82	0.26	52	0	.	2.45	0.00
3614260	D'Espoir Brook	64	207	0.31	12	38	0.31	0.18	0.18
3614760	Allan's Cove Brook	25	106	0.24	14	0	.	0.54	0.00
3614850	Bottom Brook	50	111	0.45	17	35	0.50	0.35	0.32
3615270	Dolland Brook	155	130	1.19	87	31	2.82	0.56	0.24
3716620	Grey River	351	479	0.73	419	404	1.04	1.19	0.84
3717440	White Bear River	825	901	0.92	559	229	2.44	0.68	0.25
3717720	Bay De Loup River	10	75	0.13	0	0	.	0.00	0.00
3717770	Kings Hr. River	21	74	0.29	8	13	0.60	0.36	0.18
3817890	Grandy's River	1306	1450	0.90	1042	441	2.36	0.80	0.30
3818190	Connoire Brook	33	124	0.27	31	34	0.91	0.94	0.27
3818340	Couteau Brook*	17	.	.	14	.	.	0.78	.
Total		5436	10891	0.50	4563	2992	1.53	0.84	0.27
SFA 12									
3818800	La Poile River	551	893	0.62	566	325	1.74	1.03	0.36
3818880	Barasway Brook*	6	.	.	4	.	.	0.67	.
3819030	Farmers Arm Brook	72	168	0.43	41	27	1.51	0.57	0.16
3819100	Garia River	109	294	0.37	103	102	1.01	0.95	0.35
3819120	Northwest Brook (Garia Bay)	25	131	0.19	8	8	0.97	0.31	0.06
3919590	Grandy's Brook (Burnt Is. River)	590	478	1.23	347	68	5.11	0.59	0.14
3919820	Isle Aux Morts River	365	665	0.55	225	156	1.44	0.62	0.23
3920100	Grand Bay Brook	89	224	0.40	72	92	0.78	0.80	0.41
Total		1806	2853	0.63	1366	778	1.76	0.76	0.27

Table 7. Cont'd.

SFA 13		Rods			Total			CPUE	
River No.	River Name	Stub	DFO	Stub/DFO	Stub	DFO	Stub/DFO	Stub	DFO
4000010	Red Rocks Brook*	33	.	.	2	.	.	0.06	.
4000020	Bear Cove Brook	25	400	0.06	6	48	0.12	0.23	0.12
4000140	Little Codroy River	177	464	0.38	52	147	0.36	0.30	0.32
4000330	Grand Codroy River	2344	3662	0.64	1633	952	1.72	0.70	0.26
4000860	Crabbes Brook	677	906	0.75	774	256	3.02	1.14	0.28
4000900	Barachois Brook	605	785	0.77	386	193	2.00	0.64	0.25
4000920	Robinsons River	1232	1051	1.17	850	286	2.97	0.69	0.27
4000960	Fishels Brook	291	702	0.41	291	321	0.91	1.00	0.46
4101080	Flat Bay Brook	1141	615	1.85	693	168	4.12	0.61	0.27
4101110	Little Barachois Brook	221	484	0.46	136	121	1.12	0.61	0.25
4101150	Southwest Brook (Bottom Brook)	1796	1217	1.48	1374	153	8.98	0.76	0.13
4101200	Harry's River	1556	1518	1.02	722	287	2.51	0.46	0.19
4301920	Fox Island River	349	689	0.51	287	73	3.93	0.82	0.11
4402090	Serpentine River	297	740	0.40	318	229	1.39	1.07	0.31
4402430	Humber River	9046	5687	1.59	7529	2177	3.46	0.83	0.38
4402570	Whites Brook*	2	.	.	2	.	.	1.00	.
4402740	Goose Arm Brook	142	803	0.18	60	86	0.70	0.42	0.11
Total		19934	19723	1.01	15115	5497	2.75	0.76	0.28

SFA 14A									
4503520	Trout River	244	479	0.51	60	29	2.07	0.25	0.06
4503740	Middle Brook*	6	.	.	0	.	.	0.00	.
4503920	Lomond River	1552	2017	0.77	1147	499	2.30	0.74	0.25
4504040	Deer Arm Brook	305	401	0.76	312	15	20.82	1.03	0.04
4504120	Bakers Brook*	6	.	.	0	.	.	0.00	.
4504150	Little Brook*	2	.	.	6	.	.	3.00	.
4604220	Western Brook	25	0	.	2	0	.	0.08	.
4604560	Parsons Pond River	66	692	0.10	62	94	0.66	0.94	0.14
4604620	Portland Creek	1048	3224	0.32	986	1440	0.68	0.94	0.45
4704740	River of Ponds	1721	4558	0.38	1114	1242	0.90	0.65	0.27
4704750	Little Brook Ponds	58	467	0.12	35	160	0.22	0.60	0.34
4704800	Torrent River	328	992	0.33	252	318	0.79	0.77	0.32
4704840	East River	312	1650	0.19	223	429	0.52	0.71	0.26
4805030	Castors River	1086	1540	0.71	900	464	1.94	0.83	0.30
4905170	St. Genevieve River	1699	2195	0.77	1335	1105	1.21	0.79	0.50
4905200	East River	66	76	0.87	33	23	1.43	0.50	0.30
4905370	Green Island Brook*	39	.	.	23	.	.	0.60	.
4905390	Eddies Cove Brook*	60	.	.	25	.	.	0.42	.
4905460	Big Brook	231	667	0.35	163	87	1.87	0.71	0.13
4905510	Watt's Bight Brook	99	402	0.25	33	34	0.97	0.33	0.08
0105640	Pincents Brook	47	276	0.17	14	2	6.79	0.29	0.01
0105680	Parker River (West Brook)	81	579	0.14	49	20	2.43	0.60	0.03
0105710	Bartletts River	25	316	0.08	6	40	0.15	0.23	0.13
0105720	Upper Brook	23	263	0.09	0	0	.	0.00	0.00
0105800	East Brook (Pistolet Bay)	14	252	0.05	0	0	.	0.00	0.00
Total		9143	21046	0.43	6778	6001	1.13	0.74	0.29

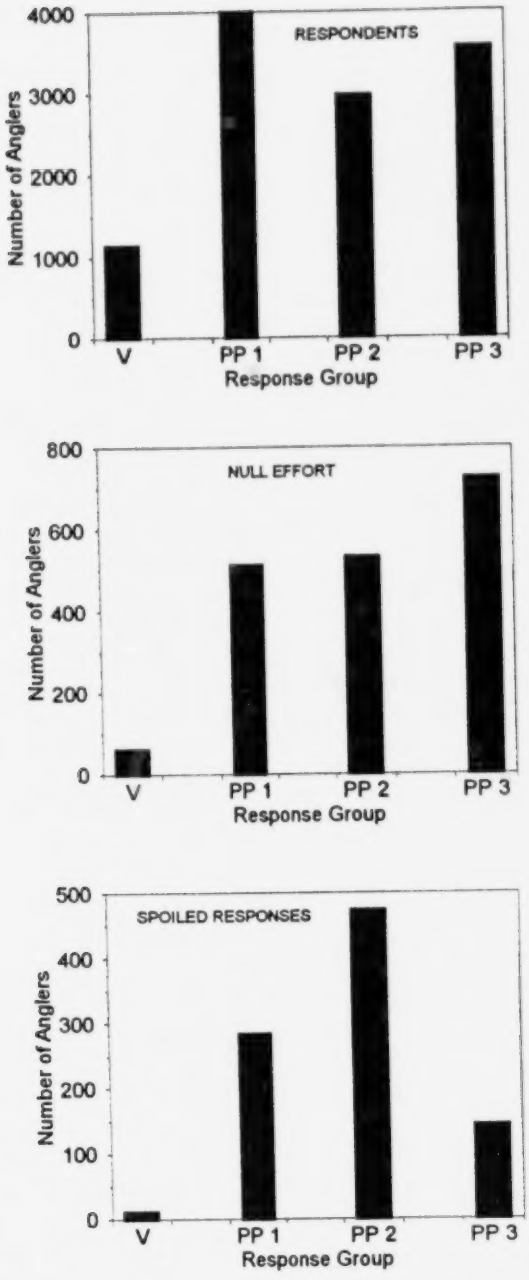


Fig. 1. Number of respondents, null effort, and spoiled responses per response group. V = voluntary; PP = post prompt.

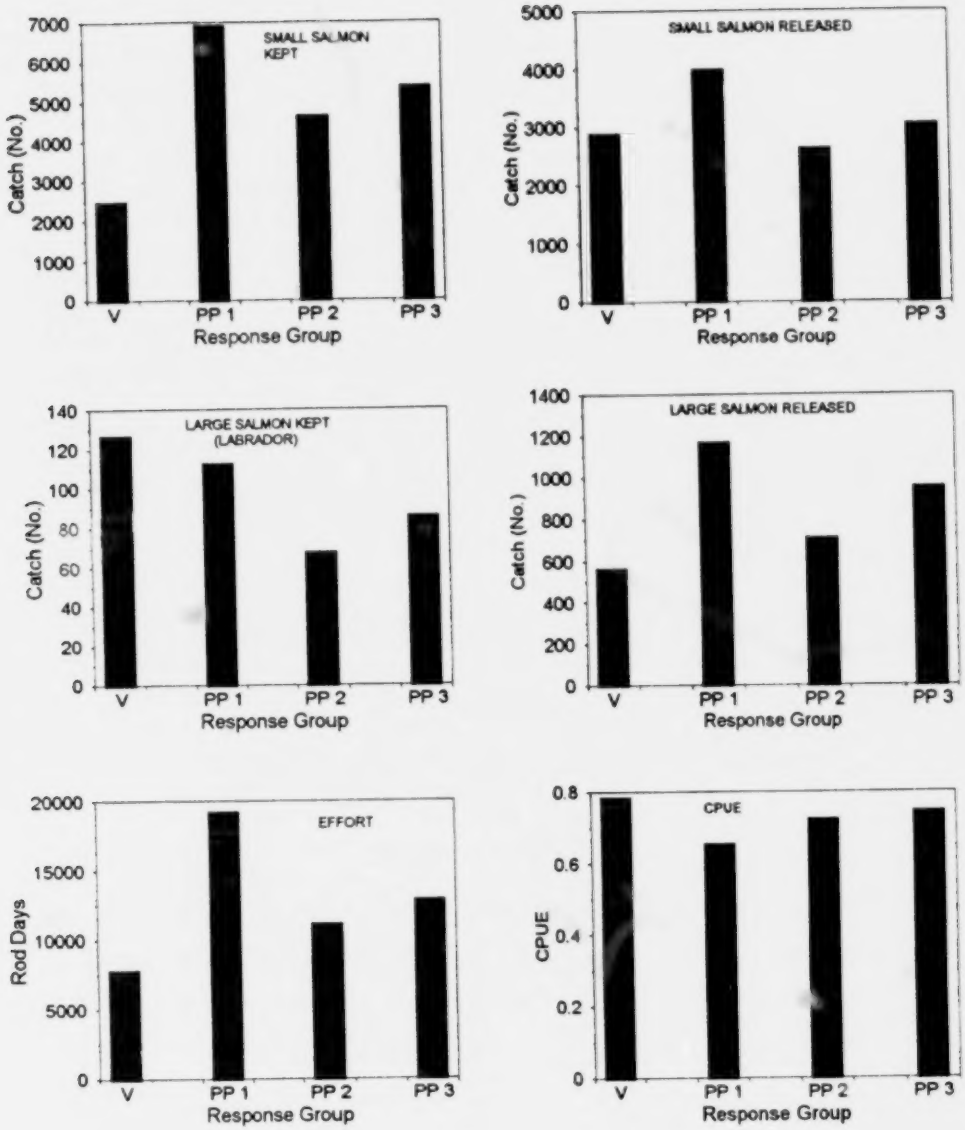


Fig. 2. Reported catch and effort information by response group. Effort is in terms of rod days and CPUE is for total catch (kept and released small and large salmon combined. V = voluntary; PP = post prompt.

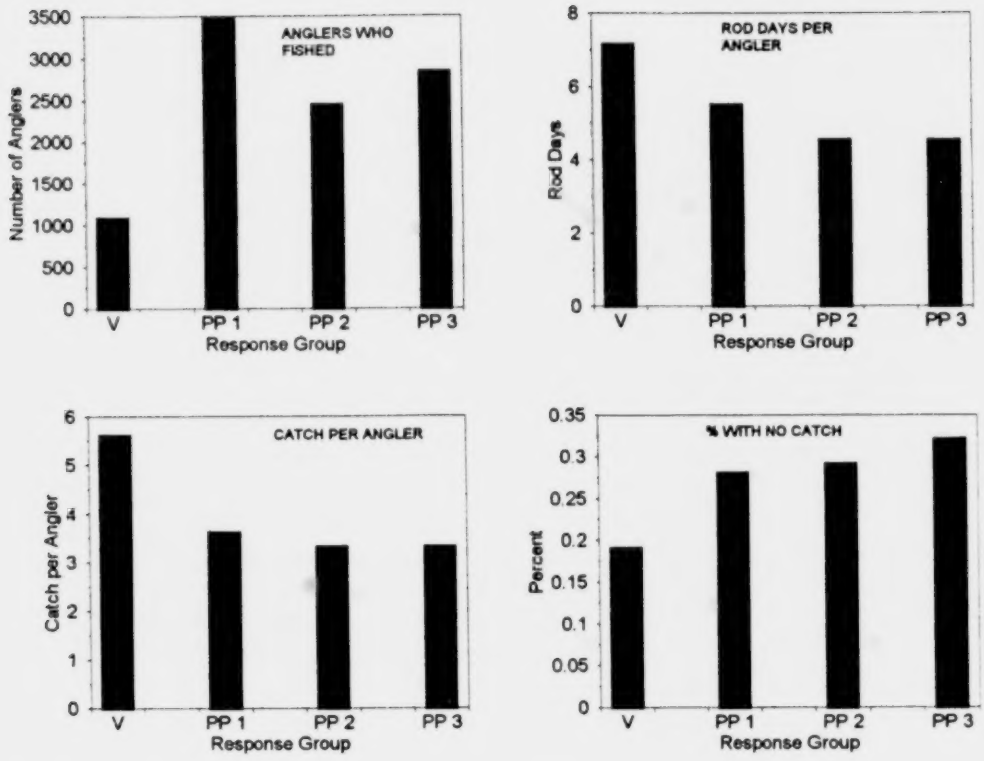


Fig. 3. Number of anglers who fished, rod days of effort per angler, percent of anglers reporting no catch, and catch per angler (in terms of total catch: kept and released small and large salmon combined) for each response group. V = voulntary; PP = post prompt.

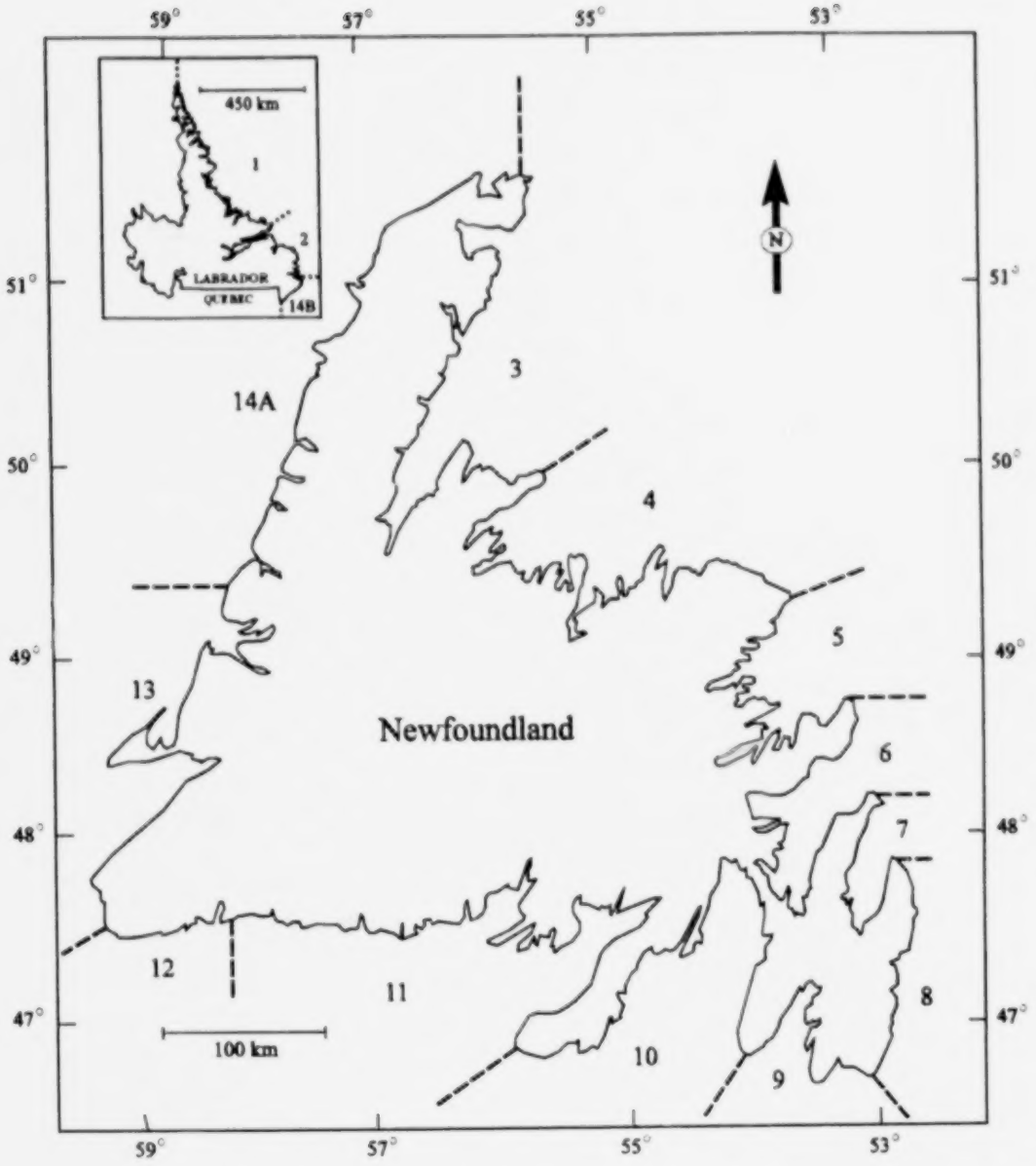


Fig. 4. Map showing the 14 Salmon Fishing Areas of the Newfoundland Region.

Appendix 1. Samples of the vendor's slip (top) and angler stub (bottom).

1994 NEWFOUNDLAND & LABRADOR

Inland Fishing Licence (Individual) - **13703**

RESIDENT (SALMON)

Please print One Letter or Number Per Block. Do Not Alter or Deface

SURNAME | FIRST NAME AND INITIAL | SEX

MAILING ADDRESS

POSTAL CODE

TELEPHONE | DATE OF ISSUING (DD/MM/YY)

M.C.P. No. - - - (Fee)

VENDOR | APPLICANT

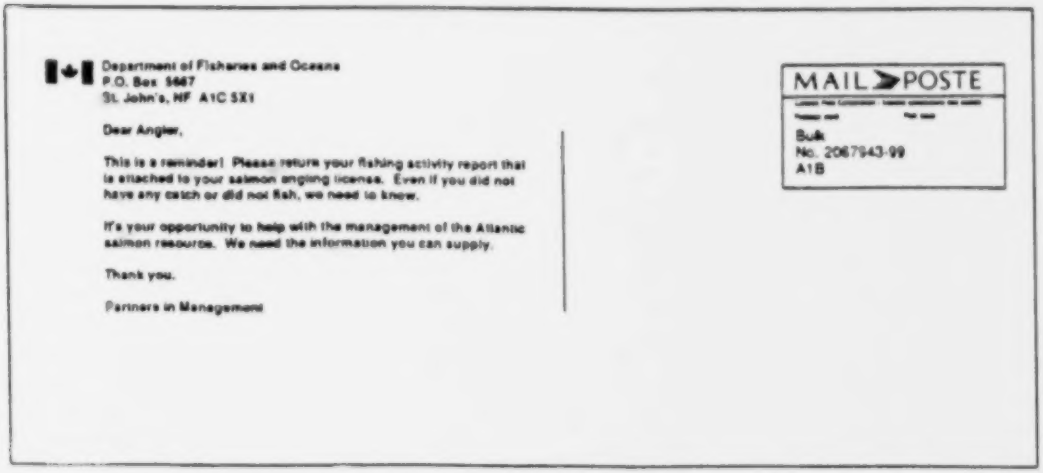
This stub to be returned to Dept. of Fisheries and Oceans

Please report your fishing activity below. **Licence Number**

Refer to instructions on form. **(Return Copy)** **13703**

1994 Date Day	Mo	River	Zone	Hours Fished	Small		Large	
					Kept	Released	Kept	Released

Appendix 2. Samples of post prompt 1 (top), post prompt 2 (middle), and post prompt 3 (bottom) reminder cards.



Department of Fisheries and Oceans
P.O. Box 5667
St. John's, NF A1C 5X1

MAIL ➤ POSTE
Bulk
No. 2067943-99
A1B

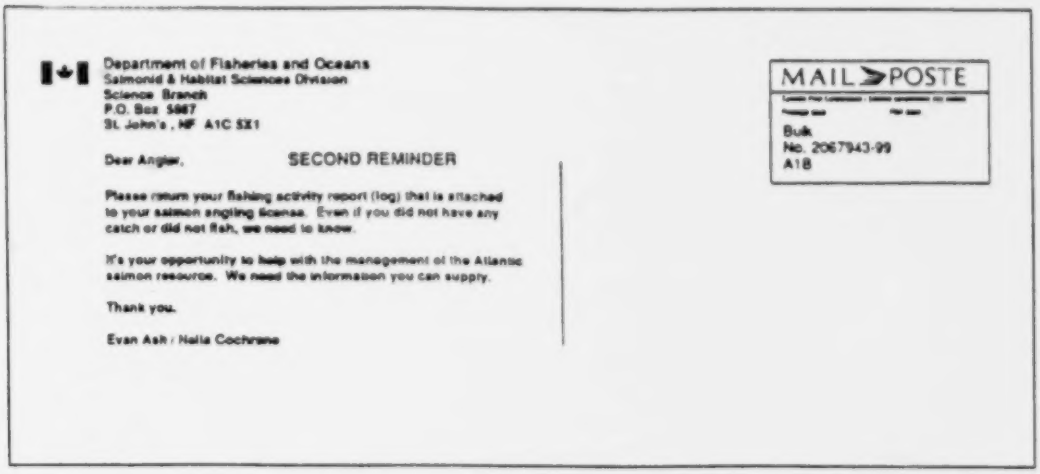
Dear Angler,

This is a reminder! Please return your fishing activity report that is attached to your salmon angling license. Even if you did not have any catch or did not fish, we need to know.

It's your opportunity to help with the management of the Atlantic salmon resource. We need the information you can supply.

Thank you.

Partners in Management



Department of Fisheries and Oceans
Salmonid & Habitat Sciences Division
Science Branch
P.O. Box 5667
St. John's, NF A1C 5X1

MAIL ➤ POSTE
Bulk
No. 2067943-99
A1B

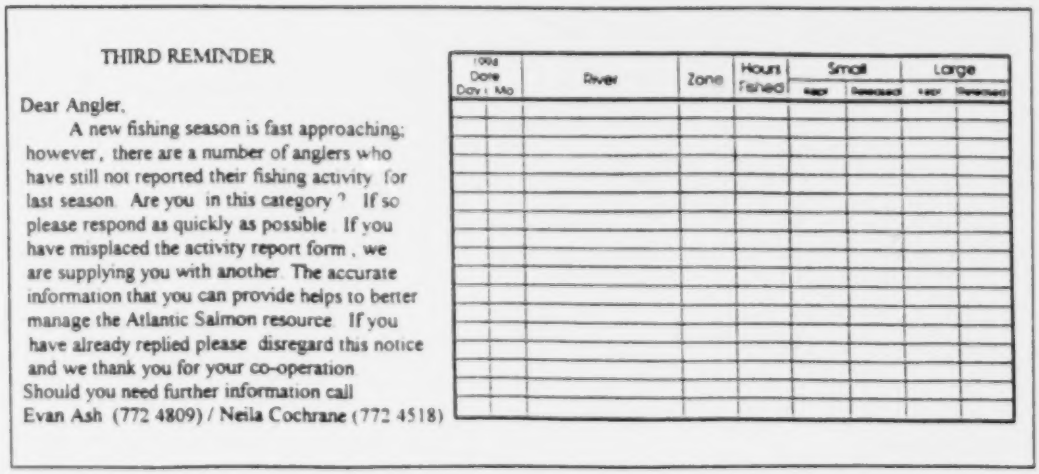
Dear Angler, SECOND REMINDER

Please return your fishing activity report (log) that is attached to your salmon angling license. Even if you did not have any catch or did not fish, we need to know.

It's your opportunity to help with the management of the Atlantic salmon resource. We need the information you can supply.

Thank you.

Evan Ash / Neila Cochrane



THIRD REMINDER

Dear Angler,

A new fishing season is fast approaching; however, there are a number of anglers who have still not reported their fishing activity for last season. Are you in this category ? If so please respond as quickly as possible. If you have misplaced the activity report form, we are supplying you with another. The accurate information that you can provide helps to better manage the Atlantic Salmon resource. If you have already replied please disregard this notice and we thank you for your co-operation.
Should you need further information call Evan Ash (772 4809) / Neila Cochrane (772 4518)

1994 Date Day | Mo	River	Zone	Hours Fished	Small		Large	
				Kept	Released	Kept	Released